

REMARKS/ARGUMENTS

Claims 1-44 are pending. Claims 21-28 and 35-42 are allowed.

Claim 1 has been clarified to recite, *inter alia*, “tilting and rotating the object, but not the energy source, about an axis of rotation at a canted angle with respect to the image plane.” Support for which can be found from paragraph [0026] and Fig. 4.

Claims 15 and 29 have been clarified to recite “includes a support for the object enabling the object to be tilted and rotated.” Support for which can be found from paragraph [0026] and Fig. 4.

Claim 43 has been added. This claim recites all the limitations of claim 1 with the additional limitation of “manipulating the source to image plane angle.” Support for the latter limitation can be found from paragraphs [0009] and [0048]; Fig. 9, and claim 13.

Claim 44 has been added. This claim recites all the limitations of claim 15 with the additional limitation of “wherein the system is capable of manipulating the source to image plane angle.” Support for the latter limitation can be found from paragraphs [0009] and [0048]; Fig. 9, and claim 13.

The rejection of claims 1-3, 5, 15-17, 19, 29-31, and 33 under 35 USC 103(a) as being unpatentable over Swift (US 4472822) in view of Badea et al (“3D Imaging System for Dental Imaging Based on Digital Tomosynthesis and Cone Beam CT”) and Ruimi (US 6324246) is respectfully traversed. Applicants’ claims 1 and 15 have been clarified to recite “tilting and rotating the object, but not the energy source, about an axis of rotation at a canted angle with respect to the image plane.” In this respect, the Examiner proposes modifying Swift with Ruimi, to wit:

“The tilting (fig. 1, via #35) of Ruimi will provide an axis at a canted angle with respect to the image plane.”
(Emphasis added; see page 7, lines 3-5).

“Ruimi teaches providing an axis at a canted angle with respect to the image plane (fig. 1, via #35). Such a modification as applied to Swift would tilt the imaging system of Swift (fig.5, x-ray source and detector), not eject the patient.” (Emphasis added; see page 7, bottom of page, to page 8 lines 1-3).

However, merely modifying Swift by “tilting the imaging system” will not provide the “tilting the object” limitation, as required by Applicants’ claims. Accordingly, these rejections should be withdrawn.

Applicants’ also submit that there would be no motivation for a person of skill in the art to modify Swift with Ruimi. A person of skill in the art would appreciate that the benefits of Ruimi’s “tilt system” is not derived merely from the fact that the source/detector unit is tilted, but results from having a tilt with the ability of the source/sensor unit to either rotate (Ruimi’s preferred embodiment; see col. 2, lines 24-29) or move in different helical positions (see col. 2, lines 6-9) when performing the scanning operation. In this respect, a person of skill in the art would immediately appreciate that Swift’s system relies on the principle of the source/sensor performing vertical translations, and accordingly not be motivated to modify Swift with Ruimi.

MPEP section 2143.01(V) states:

“If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious. In re Ratti, 270 F.2d 810, 123 USPQ 349 (CCPA 1959) (Claims were directed to an oil seal comprising a bore engaging portion with outwardly biased resilient spring fingers inserted in a resilient sealing

member. The primary reference relied upon in a rejection based on a combination of references disclosed an oil seal wherein the bore engaging portion was reinforced by a cylindrical sheet metal casing. Patentee taught the device required rigidity for operation, whereas the claimed invention required resiliency. The court reversed the rejection holding the "suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate." 270 F.2d at 813, 123 USPQ at 352.)."

Here, Swift discloses that the detector (18) and x-ray source and mechanical scanner (11-16) move along a vertical translation (19). Clearly, modifying the source/scanner so that they are now tilted would require "a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate." (In re Ratti). Indeed, substantial structural changes would be needed not only to the how the source/sensor units are connected and move, but also to accommodate the modified tilt into Swift's source/detector apparatus with other parts of the scanning apparatus unit *i.e.* chair height, position etc. Moreover, a change in the basic principle under which Swift was designed to operate would result because Swift undoubtedly relies on methods and software that accepts images obtained from vertical translational scans - not methods that accept both tilted and vertical translational scans.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Here, the Examiner is proposing that Swift's vertical translation system be tilted. However, given that neither

Ruimi, nor any other prior art cited by the Examiner, show the practicalities or benefits of a system conducting tilting vertical translation scans, there is no reasonable expectation of success that such modifications would work, let alone provide the benefits/advantages of Applicant's claimed invention.

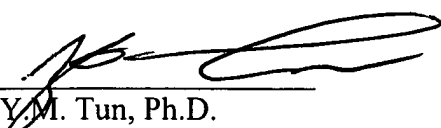
The rejection of the remaining claims 6, 20, and 34 under 35 USC 103(a) as being unpatentable variously over Swift, Badea, Ruimi, Hsieh and Yanof, is respectfully traversed. Without conceding anything about the rejection of the dependent claims, the basis for the rejections of independent claims is fundamentally flawed for the aforementioned reasons. Accordingly, these rejections should also be withdrawn.

New Claims 43 and 44 should be allowed. They recite limitations where the source to image plane angle can be manipulated. Thus, the optical axis of the source to the image plane can be perpendicular or otherwise. None of the references cited show this requirement.

In view of the foregoing, applicant believes that the application is in condition for allowance and respectfully solicits a Notice of Allowance. The Commissioner is hereby authorized to charge payment of any fees required associated with this communication or credit any overpayment to Deposit Account No. 50-3881. If an extension of time is required, please consider this a petition therefor and charge any additional fees which may be required to Deposit Account No. 50-3881.

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